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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,117	05/01/2006	Yuri Borisovich Sokolov	0155.0003US1	5024

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EXAMINER	
BROCKMAN, ANGEL T	
ART UNIT	PAPER NUMBER
2463	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/578,117	SOKOLOV ET AL.	
	Examiner	Art Unit	
	ANGEL BROCKMAN	2463	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07/08/2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 May 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims 1-11 were formerly rejected under 35 U.S.C. 103 (a). Pursuant to applicant's amendments, these rejections have been withdrawn.

Response to Arguments

1. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., how to determine when each phase-coded timing signal symbol is received is not further recited in the claims) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 103

1. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1,2, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (US 6,021, 137, hereinafter Kato) and Merwin et al.(US 5,691,691, hereinafter Merwin) in view of McFayden (US 4,301,415, hereinafter McFayden).

Regarding **claim 1,** Kato discloses a timing signal source periodically transmitting timing signals comprising one or more timing signal symbols and using a reference signal to determine when each timing signal is transmitted(column 7, lines 58-65, wherein the polling signal is the timing signal); a plurality of numbered slave units (figure 1, wherein slave units are terminals 2-4, column 10, lines 1-25); each numbered slave unit receiving at least one timing signal and using the voltage to determine when each timing signal symbol is received (column 13, lines 65-column 14, lines 1-5, wherein the superimposed spread signal on the power line is the voltage); each numbered slave unit transmitting a data signal using its number and time when a timing signal is received to determine when to begin transmitting so that data signals from the slave units do not overlap with each other or with the timing signals (column 8, lines 14-30, wherein response signal is transmitted after a predetermined time to avoid overlap); a main unit receiving

the data signals from the slave units ((130), wherein the data collector is the main unit). Kato does not disclose the superimposed signal includes AC current on a power line to determine when each timing symbol is received. However, it is well known in the art that the AC power line includes a superimposed AC current (column 1, lines 25-36, column 3, lines 10-25). Merwin discloses the slave units determine when each time symbol is received (column 3, lines 32-36). Kato and Merwin do not disclose phase coded timing signal. McFayden discloses a phase coded timing signal (figure 3) and decoding a phase coded timing signal (figure 1, figure 4) Thus, it would have been obvious to one of ordinary skill in the art to utilize the phase coded signal as disclosed by McFayden along with the system as disclosed by Merwin along with the data collection system as disclosed by Kato. The phase coded signal as disclosed by McFayden can be implemented in the system of Kato through software and hardware manipulation. The motivation for utilizing the phase coded signal as disclosed by McFayden along with the system as disclosed by Merwin and Kato. The motivation for utilizing the phase coded signal as disclosed by McFayden along with the system as disclosed by Merwin and Kato is to increase efficiency of the network by increasing the transmission rate (column 2, lines 35-40, Merwin).

Regarding **claim 2,** Kato discloses in case of temporary absence of the timing signals, the slave units continue transmission computing when to begin transmitting using a previously received timing signal (see figure 6, figure 7, column 9, lines 54-66, where the period of time waited is the absence of timing signal and the polling signal is low response signal of A1 includes the computing of the half-cycle).

Regarding **claim 6,** Kato discloses the timing signal source is the main unit (column 7, lines 58-65, wherein the data collector generates the timing signals).

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato (US 6,021,137, hereinafter Kato), Merwin, and McFayden (US 4,301,415, hereinafter McFayden) in view of Tanaka et al.(US 4,998,245, hereinafter Tanaka).

Regarding **claim 4**, Kato discloses a timing signal is subjected to modulation (figure 8, where the reference signal is subjected to the primary modulating circuit. Kato, Merwin, and McFayden disclose all subject matter of the claimed invention with the exception of broadcast data transmission from a main unit to slave ones. Tanaka discloses broadcast data transmission from a main unit to slave ones (figure 1, figure 5, column 3, lines 15-40). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize the broadcast transmission of Tanaka and modulation of Kato, Merwin, and McFayden. The modulation and broadcast transmission as disclosed by Tanaka can be implemented into the system of Kato, Merwin, and McFayden through software implementation. The motivation for utilizing the modulation and broadcast transmission as disclosed by Tanaka in the system as disclosed by Kato, Merwin, and McFayden is to increase the efficiency of the system.

5. Claims 3,5, and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over and Kato(US 6,021,137, hereinafter Kato), Merwin and McFayden (US 4,301,415, hereinafter McFayden). in view of (Lester et al.(US 6,784,790 B1, hereinafter Lester) .

Regarding **claim 3**, Kato, Merwin , and McFayden disclose all subject matter of the claimed invention with the exception of source supplying a timing signal is not a system main unit but some other individual device. Lester discloses a source supplying a timing signal is not a system main unit (column 4, lines 61-67, column 5, lines 10-15, column 8, lines 20-47, where the IC is a micro chip or microprocessor). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize the timing signal as disclosed by Lester along with the system as disclosed by Kato, Merwin, and McFayden. The other units as disclosed by Lester can be implemented into the system as disclosed by Kato, Merwin, and McFayden can be manipulated through software. The motivation for utilizing another device as the timing signal as disclosed by Lester along with the system as disclosed by Kato, Merwin, and McFayden is to increase the efficiency of the network.

Regarding **claim 5,** Kato discloses all signals being transmitted by a main and slave units have duration equal to 1/3 of the network voltage (column 14,lines 4-10, where the certain period of time is 1/3 of the network voltage). Kato, Merwin, and McFayden disclose all subject matter of the claimed invention as set forth above in claim 1, with the exception of the zero crossing points centering. Lester discloses sending a timing signal of a predetermined form (figure 4A, column 5, lines 53-66, column 6, lines 1-29, where the reference pulse includes the timing signal); zero crossing points of the fundamental harmonic of system supply network voltage (column 5, lines 55-65). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize the duration or the network voltage and AC reference signal as disclosed by Kato, Merwin, and McFayden along with the system as disclosed by and Lester. The duration of the transmitted signals can be implemented using software. The motivation for

utilizing the duration of 1/3 of the AC current voltage half-cycle and centered about zero crossing points is to increase the efficiency of the system.

Regarding **claim 7,** Kato, Merwin, and McFayden disclose all subject matter of the claimed invention with the exception of each timing symbol is transmitted over a half-cycle of the AC current voltage. Lester discloses of each timing symbol is transmitted over a half-cycle of the AC current voltage(column 5, lines 43-65). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize the half-cycling as disclosed by Lester along with the system as disclosed by Kato, Merwin, and McFayden. The half-cycling can be implemented through software implementation. The motivation for utilizing the half-cycling is to increase the efficiency of the system.

Regarding **claim 8,** Kato, Merwin, and McFayden disclose all subject matter of the claimed invention with the exception of the start of each timing signal symbol transmission is when the AC current voltage value is zero. Lester discloses the start of each timing signal symbol transmission is when the AC current voltage value is zero (column 2, lines 15-26, wherein the zero crossing points mark beginning of transmission). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize the zero crossings for transmission as disclosed by Lester along with the system as disclosed by Kato, Merwin, and McFayden. The zero crossings for transmission can be implemented through software implementation. The motivation for utilizing the zero crossings for transmission is to increase the efficiency of the system.

Regarding **claim 9,** Kato, Merwin, and McFayden disclose all subject matter of the claimed invention with the exception of each data signal is transmitted over a half-cycle of the AC current voltage. Lester discloses of each timing symbol is transmitted over a half-cycle of the AC current voltage(column 5, lines 43-65, therefore data is transmitted in the other half cycle, as a period is made up of one cycle). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize the half-cycling as disclosed by Lester along with the system as disclosed by Kato, Merwin, and McFayden. The half-cycling can be implemented through software implementation. The motivation for utilizing the half-cycling is to increase the efficiency of the system.

Regarding **claim 10,** Kato, Merwin, and McFayden disclose all subject matter of the claimed invention with the exception of the start of each data signal transmission is when the AC current voltage value is zero. Lester discloses the start of each data signal symbol transmission is when the AC current voltage value is zero (column 2, lines 15-26, wherein the zero crossing points mark beginning of transmission). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize the zero crossings for transmission as disclosed by Lester along with the system as disclosed by Kato, Merwin, and McFayden. The zero crossings for transmission can be implemented through software implementation. The motivation for utilizing the zero crossings for transmission is to increase the efficiency of the system.

Regarding **claim 11,** Kato, Merwin, and McFayden disclose all subject matter of the claimed invention with the exception of an N-th half cycle of the AC current voltage (column 5, lines 43-65, therefore data is transmitted in the second or (N-th) half cycle, as a period is made up of one cycle). Thus, it would have been obvious to one of ordinary skill in the art at the time

of invention to utilize the half-cycling as disclosed by Lester along with the system as disclosed by Kato, Merwin, and McFayden. The half-cycling can be implemented through software implementation. The motivation for utilizing the half-cycling is to increase the efficiency of the system.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

7. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANGEL BROCKMAN whose telephone number is (571)270-5664. The examiner can normally be reached on Monday-Friday ,7:30-5:00pm.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derrick Ferris can be reached on 571-272-3123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ANGEL BROCKMAN

Examiner

Art Unit 2463

/A. B./

Examiner, Art Unit 2463

/Derrick W Ferris/

Supervisory Patent Examiner, Art Unit 2463